USMC HSC Project Experimentation Update

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Topics

- **Update on JHSV program**
- **USMC R&D Efforts**
- **USMC Experimentation Update**

JHSV Program Update

- **JHSV Program Office Established**
  - PMS 325 assigned as PM
  - Responsible for Acquisition and Interim Leasing options
- **HSC and TSV programs merged into JHSV**
- **AoA Guidance to be published in Feb/Mar**
- **Lead Ship Award – FY08**

Primary Missions

- **Support to Theater Security Cooperation Program (TSCP) & Global War On Terrorism**
- **Littoral maneuver … Port-to-port maneuver and sustainment operations**
- **Seabasing Support**
  - Force Closure – Phased At-sea Arrival & Assembly
  - Seabase-to-Shore Maneuver & Sustainment
  - Intra-Seabase Distribution

Primary Capabilities

- **Conduct high-speed maneuver over intra-theater ranges**
- **Self-deploy from CONUS or other theater to JOA**
- **Conduct at-sea transfer of personnel, equipment and supplies**
- **Conduct self-sustained operations in austere, minor and degraded ports**
- **Reconfigurable, open mission deck for rolling stock, cargo and modules**
- **C4I capability to support embarked forces**
- **Conduct flight operations**

JHSV R&D Program

R&D Objectives

- **Enhance capability to conduct at-sea transfers between MPF and JHSV**
- **Enhance interoperability between MPF, MPF(F), and JHSV**
- **Enhance capability to conduct at-sea ship-ship transfers**
  - Fendering systems
  - Pax transfer systems

R&D Objectives

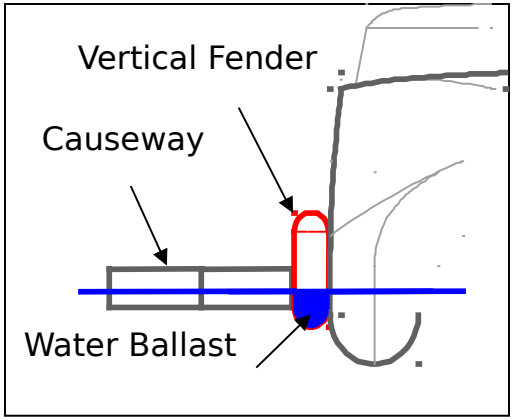
- **Enhance capability to exploit littoral offload sites**
  - Develop software to assess offload options
  - Integrate Fleet Survey Team rapid survey capability
  - Develop lightweight ship-to-shore interface systems
- **Support requirements definition for JHSV acquisition**

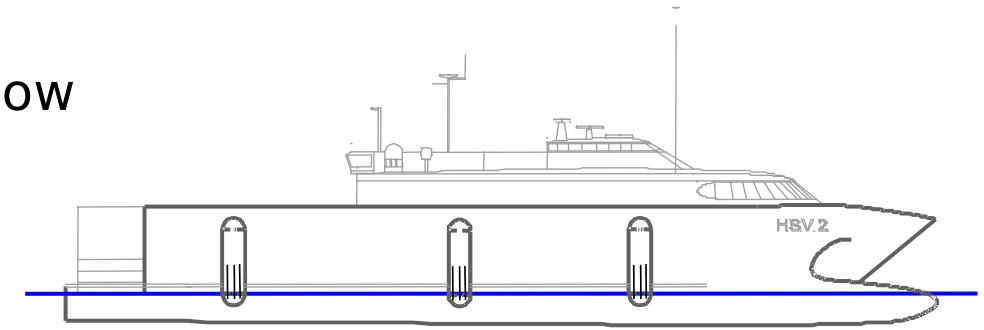
R&D Programs

- **Deployable Air-beam Fendering System (DAFS)**
- **Lightweight Modular Causeway System (LMCS)**
- **Littoral Access Studies**
- **Alternative Port Study**
- **At Sea Passenger Transfer Study**
- **Air Skid LOEs**
- **MOGAS Module development**
- **PACSCAT Concept Study**
- **Force Closure Study (MCCDC/N75)**

DAFS

- Lightweight, organic fendering system to support ship-to-ship, -causeway, and –port marriages
- Automated inflatable fendering system to allow for rapid deployment
- Enables skin to skin with ships, causeways and piers w/o having to expose personnel to adverse weather or seas
- Inflatable design allows for low weight and low stowage volume.



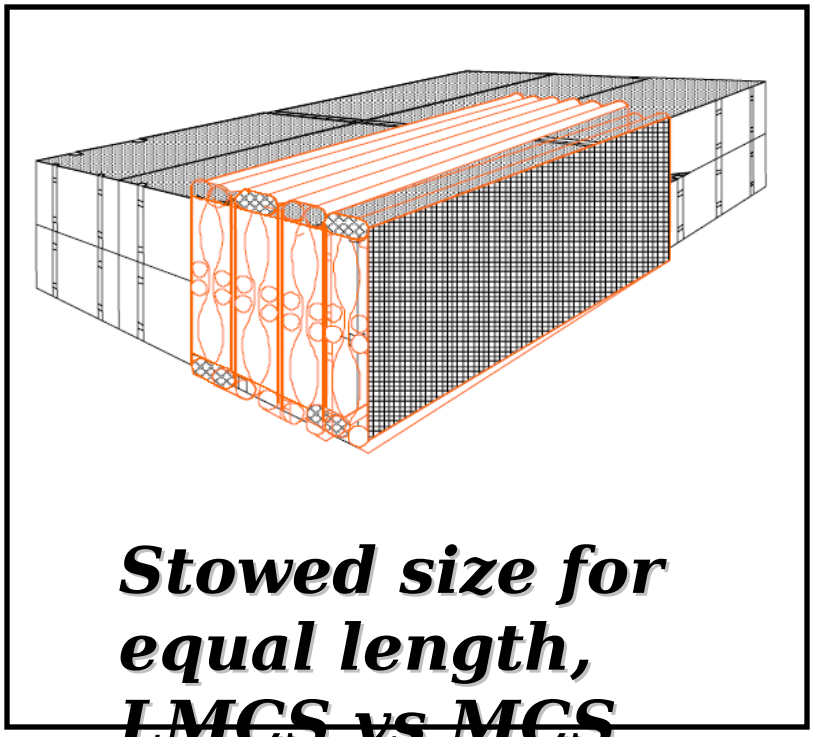


DAFS

- Design methodology and preliminary concept testing completed
- Finalizing scale demo design; Construction completed Feb 05
- Land and shore side testing in April 05
- Potential for at-sea T&E in October 05 icw DESTINED GLORY

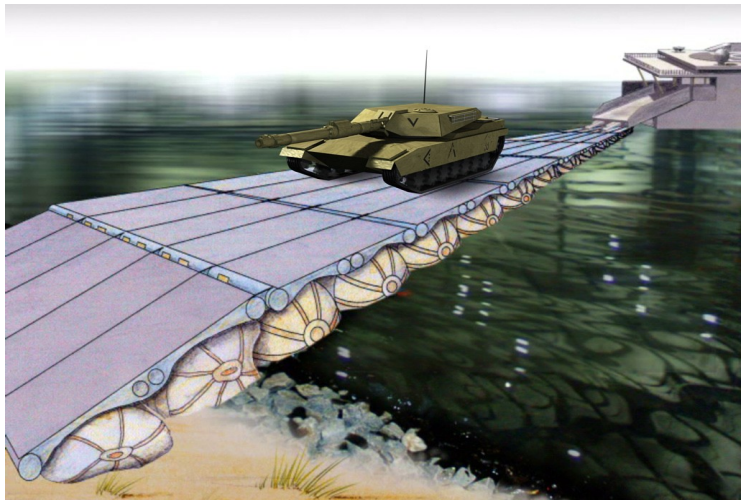
LMCS

- Concept:
  - Causeway section that is 60-70% lighter than current inventory, but 100% capable.
  - Allows shallow draft vessel to stab beach or shoreline and increase throughput in small ports.



LMCS

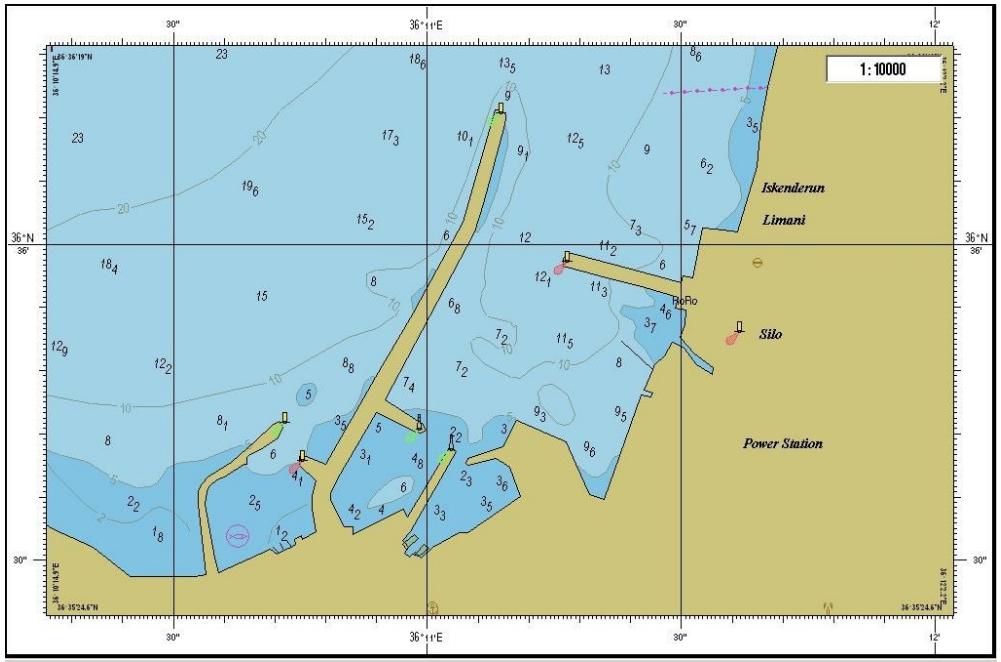
- Medium-scale LMCS to be designed and built in FY 04 effort, second section in FY 05
- Potential Interop experimentation with SWIFT in October 05 icw DESTINED GLORY



LMCS – Artist's Rendition

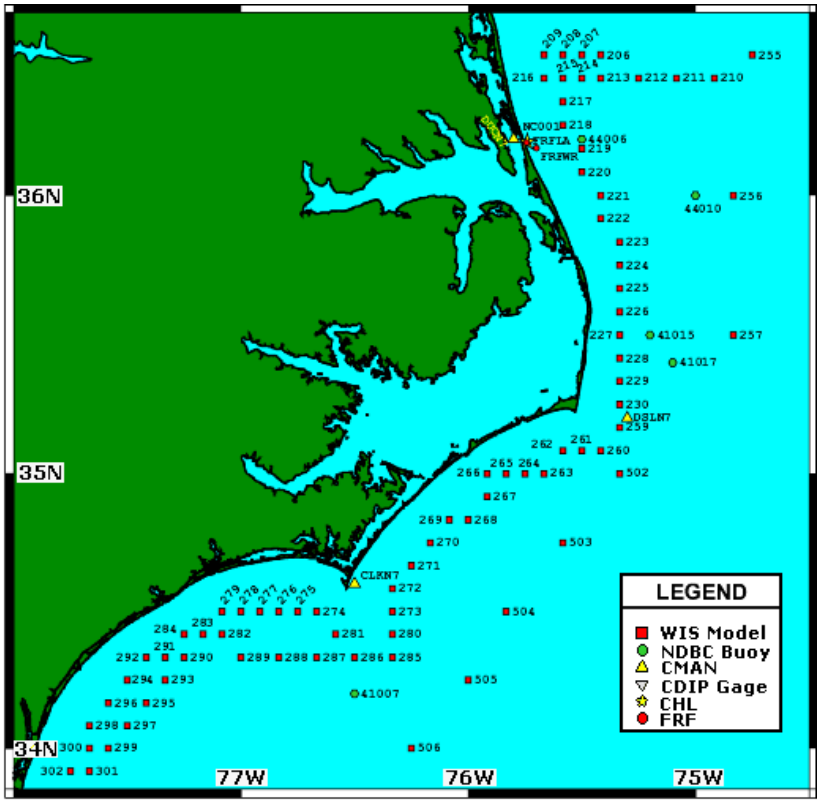
Small Port Study

- Navigation and topo chart analysis to ID potential locations and quantify access of JHSV
- Areas of interest nominated by MARFORs, SJTF (PACOM)
- Potential to validate study results during experimentation with NAVO Fleet Survey Team



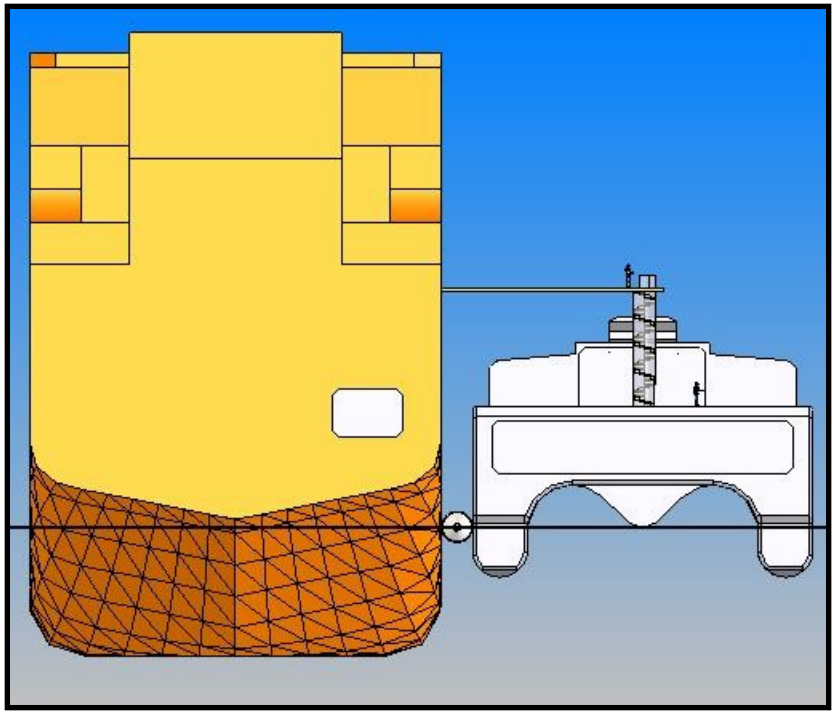
Alternative Port Study

- Quantifies enhanced access of HSC by identifying alternative onload/offload sites in area near Camp Lejeune, NC.
- Supports ETA initiatives and aids throughput modeling assessment of alternative sites.



At-Sea Pax Transfer Study

- Concept study to explore at-sea pax transfer options
  - Compatible with MPF(F)
- Final report details recommendations and estimates for full and sub scale demonstrators.



Air Skid LOEs

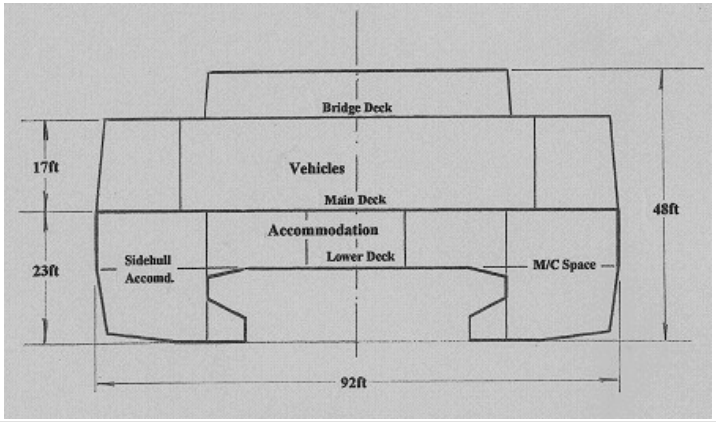
- COTS based, lightweight, low volume
- Successful pierside and underway testing
- System is safer, faster and cheaper than existing container moving methods aboard SWIFT

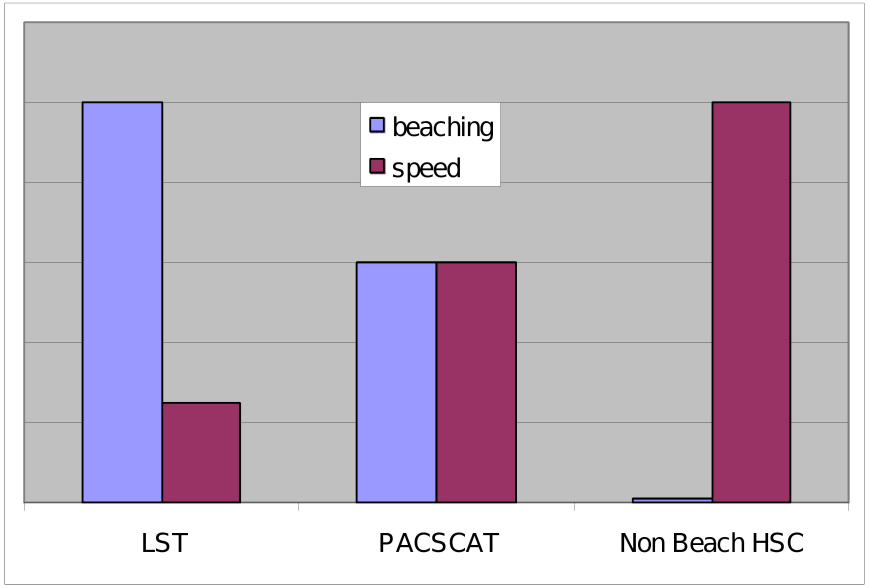
MOGAS Module

- **MCCDC partnered with NAVSEA and NAVAIR to develop MOGAS capability for future JHSVs**
- **Completed initial design and review of 800 gallon MOGAS module suitable for in-water refueling of small craft**
- **NAVAIR has approved flight ops while MOGAS module is embarked**
- **FY05 effort focused on construction and testing of initial module**

PACSCAT Concept Design Study

- Partial Air Cushion Supported CATamaran
- Study assesses capability of PACSCAT hull design to support JHSV mission requirements … determine tradeoffs required to attain a limited beaching capability
- Significant impact on performance if beaching capability is added to design, even with PACSCAT compromise





Force Closure Study

- **Co-sponsored by MCCDC and N75**
- **Assess impact of JHSV on force closure to a sea base**
  - Advance Base to Sea base closure
  - Employment of Multiple ABs along MPF transit route
  - Employment of JHSVs to deploy non-self deploying rotary wing assets
- **Assess impact of JHSVs in Other Expeditionary operations**
  - HA/DR, NEO, Embassy Reinforcement

Force Closure Study

- **Decreased Force Closure time**
  - JHSV able to reduce Force Closure from 15 days (current MPF(F) planned capability) to 10.5-11.9 days depending on scenario

- **Enhanced Flexibility**
  - Increase capability to conduct phased at-sea A&A
  - Use of multiple APODs
  - MPF(F) can arrive on station in time vice N+15

USMC Experimentation

Overview

- **Impact of Tsunami Relief Operations**
- **AFRICAN LION & TRADEWINDS still on schedule**
- **USMC Analysts deployed to SWIFT for HA/DR assessment & data collection**
- **Exploring Opportunities for enhanced MPF interface experimentation**

African Lion 05

- Dates: 1-10 April 05
- Location: Morocco (TAN TAN training area)
- Sponsor: MARFOREUR
- Experiment Lead: MCCDC
- Planning Conferences
  - ✓ IPC: 25-29 Oct 04
  - ✓ MPC: 6-10 Dec 04
  - FPC:14-18 Feb 05
- Key Events: Advance Base RSO&I, DV Day, Naval PASEX

AL-05 Objectives

- **Deployment of CONUS based alert MAGTF**
  - RSO&I at Advance Base
  - Deploy to crisis site on JHSV
- **RSOI of CONUS based alert MAGTF, pre-positioned equipment (NALMEB) and maneuver platform (JHSV)**
  - Potential employment of commercial ferry
- **Afloat C2 of combined operations**
  - MAGTF CE Control FTX from SWIFT

Tradewinds 05

- Dates: 3-23 May 05
- Location: Antigua
- Sponsor: MARFORSOUTH
- Experiment Lead: MCCDC
- Planning Conferences
  - ✓ IPC: 21-24 Sep 04, Antigua
  - ✓ MPC: 6-10 Dec 04, Antigua
  - – FPC: 28 Feb-3 Mar 05, Antigua

TW-05 Overview

- **MARFORSOUTH Sponsored Invitex**
- **21 Nations Participating**
- **Objectives- Train Caribbean Forces in Security Ops for World Cup of Cricket Championship in 07**

TW-05 Objectives

- **Assess JHSV operations in the Caribbean Op Area**
  - Austere Port Access in the region
- **Conduct intra-theater deployment of CONUS based force**
- **Littoral Maneuver**
- **Assess employment of Fleet Survey Team iso JHSV operations**

TW-05 Events

- **Deploy CONUS based force to Antigua**
- **DV Day**
- **Dutch Raid (Maritime Special Ops)**
- **Rapid Port Survey using Fleet Survey Team**

Destined Glory 05

- Dates: 5-30 Oct 05
- Location: Eastern Med
- Sponsor: MARFOREUR
- Experiment Lead: MCCDC
- Planning Conferences
  - ✓ IPC: 12-13 Jan 05
  - MPC: TBD
  - FPC: TBD

DG-05 Objectives

- **Major MPF – JHSV Interoperability Experimentation**
  - C2
  - At-sea Pax and Equipment Transfer
  - Explore, Assess and Test emerging sea basing technologies
- **Deploy and Test JHSV R&D Prototypes**
  - DAFS
  - LMCS
- **Support MPF (F) Experimentation**
  - ILP, MLP

MPFEX Interop Experimentation

- **Conducted MPF(F) – JHSV Interoperability Experimentation**
- **Coordination ongoing with HQMC (PPO, I&L), NAVSEA, PEO Ships (PMS 325), Blount Island Command, MCCDC**
- **Conduct Phased Experimentation to assess issues related to**
  - MPF(F) interfaces to JHSV and other platforms
  - Arrival & Assembly of MAGTF on MPF(F)
  - Selective Offload capability

MPFEX Interop Experimentation

- **Phase I: Mar/Apr 05**
  - Vicinity of BIC/Hampton Roads
  - MPF ship, FLO/FLO
  - Collect motions data on MLP (using FLO/FLO as surrogate)
  - Assess A&A and selective offload on board MPF ship
- **Phase II: Aug/Sep 05**
  - Vicinity of BIC/Hampton Roads
  - MPF ship, FLO/FLO and SWIFT
  - MPF, JHSV interop with MLP
- **Phase III: October 05 (Destined Glory 05)**

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